

Town of Lamoine, Maine
606 Douglas Hwy.
Lamoine, ME 04605
207-667-2242
e-mail town@lamoine-me.gov,
website www.lamoine-me.gov



REQUEST FOR PROPOSALS/BIDS

The Town of Lamoine seeks proposals and bids for manufacture of a fire truck body on a Brush/Rapid Response truck. The town will supply the chassis to the successful bidder. Specifications for the body may be obtained at the Lamoine Town Office, 606 Douglas Hwy., Lamoine, ME 04605. The specifications are also posted on the town's website (www.lamoine-me.gov).

Bids are due no later than 4:00 PM on July 2, 2009 at the above address. The Town reserves the right to accept or reject any and all bids.

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Bid Submission Sheet
Brush Truck Body

Due no later than 4:00 PM – July 2, 2009

Bid price for complete body as specified: \$ _____

Company Name: _____

Contact Name: _____, Title _____

Mailing Address: _____

Physical Address (if different) _____

Telephone _____ FAX _____

Email Address _____

Tax ID # _____

I submit the above bid based on the specification package as supplied by the Town of Lamoine Fire Department. I understand this bid is to be guaranteed for 90-days and through the manufacturing process. I understand the Town of Lamoine reserves the right to accept or reject any and all bids and negotiate for a best and final offer. I understand that any change order to the specification shall be made in writing with prior approval from an authorized representative of the Lamoine Volunteer Fire Department.

Signature

Date

Lamoine Volunteer Fire Department

George Smith, Fire Chief
606 Douglas Highway
Lamoine, ME 04605

Emergency: 9-1-1
Station: (207) 667-2623
Email: lvfd@lamoine-me.gov



CHIEF SKIP SMITH
CHIEF ENGINEER MOE OLIVER

Request for Proposals Brush – Rapid Response Truck

ATTACHED PLEASE FIND A REQUEST FOR PROPOSAL, FOR A NEW BRUSH TRUCK BODY, TANK, PUMP, C.A.F.S AND ACCESSORIES , MOUNTED ON A NEW CHASSIS TO BE SUPPLIED BY LAMOINE VOLUNTEER FIRE DEPARTMENT(LVFD) - SEE ATTACHED CHASSIS SPECIFICATION.)

THESE ARE THE APPARATUS BODY MINIMUM REQUIREMENTS, MINIMUM SPECIFICATIONS. THE LAMOINE VOLUNTEER FIRE DEPT WILL DECIDE WHICH BID BEST MEETS THE NEEDS OF THE LAMOINE FIRE DEPT. THE FIRE DEPT RESERVES THE RIGHT TO ACCEPT, REJECT OR NEGOTIATE WITH THE BIDDER WHICH BEST MEETS THE SPECIFICATION.

ALL BIDDERS MUST MEET THE MINIMUM STANDARDS SET FORTH IN THE FOLLOWING SPECIFICATIONS, AND MUST PROVIDE A SEPARATE LIST OF EXCEPTIONS FOR ANY DEVIATIONS TO THE SPEC.

TO QUALIFY AS A BIDDER:

- BIDDER MUST HAVE A WELL ESTABLISHED FIRE APPARATUS FABRICATION AND REPAIR FACILITY, LOCATED IN MAINE.
- BIDDER MUST BE I.S.O. CERTIFIED OR AFFILIATED WITH AN I.S.O. FIRE APPARATUS FABRICATION COMPANY.
- BIDDER MUST BE ABLE TO POST A PERFORMANCE BOND IF REQUIRED BY THE FIRE DEPT PRIOR TO AWARDING THE BID.
- BIDDER MUST HAVE A SERVICE FACILITY WITHIN THREE HOURS DRIVE OF LAMOINE FIRE DEPT.

TRANSPORTATION TO THE BIDDERS PLACE OF BUSINESS WILL BE SUPPLIED BY THE FIRE DEPT, IF THE BIDDER IS WITHIN THE SERVICE

AREA REQUESTED, OTHERWISE THE BIDDER WILL BE RESPONSIBLE FOR FACTORY TOURS.

COMPLETION OF THE APPARATUS REQUIRES THE BIDDER TO OFFER AN ACCEPTANCE TEST AT LAMOINE FIRE DEPT, AS WELL AS 1 DAY OF TRAINING.

L.V.F.D. EXPECTS THE APPARATUS TO BE COMPLETED AND DELIVERED TO THE FIRE DEPT, 90 DAYS FROM THE CHASSIS DELIVERY TO THE BIDDER.

ACCEPTANCE OF THE COMPLETED APPARATUS REQUIRES THE BIDDER TO PROVIDE A 3 RINGED BINDER PROVIDING ALL INSTRUCTIONS, INCLUDING OPERATING, INSTALLATION, FLUIDS, MSDS, LEVELS QUANTITIES , AND QUALITIES FOR ANY AND ALL COMPONENTS PROVIDED WITH THE APPARTAUS,

BIDDER MUST ALSO PROVIDE AN ACCEPTABLE INSURANCE DOCUMENT PROVIDING RESPONSIBILITY FOR THE APPARATUS WHILE IN THE BIDDER'S CUSTODY AND CARE

THE FIRE DEPT WILL DELIVER THE CHASSIS TO THE WINNING BIDDER.

PAYMENT TERMS ARE: C.O.D., FULL PAYMENT UPON COMPLETION AND ACCEPTANCE AT LAMOINE FIRE DEPT.

A \$100.00 PER DAY PENALTY WILL BE SUBTRACTED FROM THE CONTRACT PRICE FOR EACH DAY THE APPARATUS FAILS TO MEET THE DELIVERY DATE AS STATED ON THE BID

THE 120" ALUMINUM BODY O.A.L ,x 96" WIDE BODY, WITH A LADDER TYPE SUBFRAME, CONSTRUCTED FROM ALUMINUM 3" BOX TUBING WITH 3 " ALUMINUM CHANNEL FOR CROSS MEMBERS, AND A 4" ALUMINUM CHANNEL PERIMETER. THE SUBFRAME WILL BE ATTACHED TO THE CHASSIS FRAME WITH A POLY ISOLATOR BETWEEN THE CHASSIS FRAME AND THE BODY.

THE APPARATUS BODY SUBFRAME AND CROSSMEMBERS TO BE MIG WELDED , REINFORCED WITH ANGLE PLATES TO FORM A VERY STRONG BODY, THE BODY DECK IS 3/16" ALUMINUM BRIGHT DIAMONDETTE PANELS ,MIG WELDED TO THE SUBFRAME CROSSMEMBERS ON THE UNDER SIDE , AND TIG WELDED TO THE PERIMETER FRAME ON THE TOP SIDE .

THE HEAD BOARD TO BE CONSTRUCTED FROM 4"ALUMINUM CHANNEL IN A MODIFIED "H" STYLE; IT IS WELDED TO THE CHASSIS SUBFRAME THRU THE DECK FOR ADDED SUPPORT. THE HEAD BOARD IS DESIGNED FOR MOUNTING OF THE LIGHT BAR, AND OTHER EMERGENCY LIGHTS AND AREA LIGHTS. HEAD BOARD DESIGN SHALL BE APPROVED BY THE FIRE DEPT IF THEY CHOOSE.

THE REAR PANEL OF THE APPARATUS BODY WILL HOUSE ALL REAR L.E.D., D.O.T LIGHTS, STOP, TURN, AND BACKUP. L.E.D REAR EMERGENCY LITES WILL BE MOUNTED 1 SET WITH THE REAR D.O.T LIGHTS, AND 2 SETS OF EMERGENCY LIGHTS IN THE REAR FACE PANEL. THE REAR BODY SECTION WILL EXTEND DOWN 16 " FROM THE BODY BED SURFACE, CONSTRUCTION FROM ALUMINUM 3/16" PANELS , WELDED TO AN ALUMINUM 4" CHANNEL FRAME WORK, WELDED TO THE BODY & SUBFRAME D.O.T REFLECTIVE STRIPE INCORPORATED IN THE CHANNEL SIDE RAIL.

D.O.T REFLECTERS & PERIMETER LITES AS REQUIRED PER D.O.T. / NFPA.

ANY AND ALL TOWING BARS AND REESE STYLE HITCHES FOR THE REAR OF THE APPARATUS BODY WILL BE ATTACHED DIRECTLY TO THE FRAME CONSTRUCTED FROM STEEL , PRIMED , PAINTED , UNDERCOATED AND REINFORCED TO HANDLE THE EXPECTED LOAD, ALL OTHER REESE HITCHES - SIDE AND FRONT WILL BE ANCHORED DIRECTLY TO THE CHASSIS FRAME AND SUPPORTED TO HANDLE THE EXPECTED LOAD.

ONCE THE BODY AND CABINETS ARE COMPLETED AND ALL ACCESSORIES MOUNTED, SEAM SEAL ALL AREAS TO PREVENT WATER AND DEBRIS FROM GETTING BETWEEN JOINTS AND MATERIALS AND UNDERCOAT THE UNDER SIDE OF THE BODY WITH AN AUTOMOTIVE STYLE ELASTOMER UNDERCOATING, THIS WILL BE THE LAST STEP IN THE CONSTRUCTION PROCESS.

ALL BODY ELECTRICAL WIRING INSTALLED WILL TERMINATE INSIDE THE APPARATUS CAB, CONTROLLED BY A BATTERY ON/OFF MASTER SWITCH. ALL EMERGENCY LIGHTS WILL BE SWITCHED INDIVIDUALLY INSIDE THE CAB IN A PANEL DESIGNED FOR THE APPLICATION. THE PANEL WILL BE LOCATED WITHIN THE CONSOLE BETWEEN THE SEATS. ALL WIRING TO BE PROTECTED BY PLASTIC SLEEVE TYPE "LOAM"

ALL NON EMERGENCY LIGHTS WILL BE CONTROLLED AT THE SAME CONSOLE PANEL .BOTH EMERGENCY AND NON EMERGENCY LIGHTS WILL BE RUN BY SWITCHES AND CONTROLLED BY RELAYS. BOOSTER REEL WILL BE WIRED DIRECT TO A SOLENOID AND CONTROLLED BY A SWITCH AT THE PUMP OPERATOR'S PANEL, 12 VOLT HIGH AMPERAGE POWER WILL COME FROM THE MASTER BATTERY SWITCH ON CONSOLE.

IF THE MASTER SWITCH ON THE CONSOLE IS OFF, NO POWER WILL RUN TO ANY INSTALLED BODY COMPONENTS.

THE 3/16" ALUMINUM BRIGHT DIAMONDETTE CABINETS INSTALLED ON THE BODY SIDE L & R WILL BE IDENTICAL IN PROFILE,AND CONSTRUCTION, BUT DIFFERENT IN DESIGN . THE LEFT BODY SIDE COMPARTMENT WILL SET ON THE BODY WITH APPROXIMATELY A 23" BASE AND A 36" INSIDE WALL HEIGHT AND A 26" OUTSIDE WALL HEIGHT, GIVING AN APPEARANCE OF A SHED ROOF FROM THE REAR VIEW.

THE LEFT SIDE CABINET WILL HAVE A REAR FACING DOOR TO ALLOW THE STORAGE OF (2) 2 1/2" X10 FT SUCTION HOSE IN THE BOTTOM OF THE L.S COMPT. ESTIMATED SIZE 23" W x 7" TALL x 10' LONG. THERE WILL BE A FLOOR OVER THE SUCTION COMPARTMENT TO STORE INCIDENTALS.

THE LEFT SIDE UPPER PORTION OF THE COMPARTMENT WILL BE ACCESSIBLE FROM THE LEFT SIDE OF THE APPARATUS WITH A FLIP UP STYLE DOOR, WITH STAINLESS STEEL HINGES, HARDWARE AND LATCHES. IT WILL BE HELD IN THE OPEN POSITION WITH 4 GAS STRUTS. PREFERENCE IS TO MAKE THE LEFT SIDE UPPER DOORS, TWO SEPARATE DOORS. ONE DOOR LONG ENOUGH TO ALLOW STOWAGE OF SHOVELS, BROOMS, AND LONG HANDLE TOOLS.

THE RIGHT SIDE COMPARTMENT WILL BE IDENTICAL IN DIMENSION, BUT DIFFERENT IN DESIGN, NO SUCTION HOSE TRAY ON THE BOTTOM. IT WILL HAVE FLIP UP DOORS W/ STRUTS ON THE RIGHT SIDE TO ACCESS THE LOWER PORTION OF THE COMPARTMENT AND THE SAME DOORS AS THE LEFT SIDE UPPER DOOR TO ACCESS THE UPPER PORTION OF THE R.S. COMPARTMENT. A 5000W GENERATOR (OFM) INSTALLED ON A 400 LB SLIDE TRAY IN RIGHT FRONT COMPARTMENT.

COMPARTMENT DOORS WILL BE GASKETED TO HELP PREVENT DEBRIS FROM ENTERING. DRAINS WILL BE PROVIDED TO FLUSH OUT THE COMPARTMENT IN THE EVENT DIRT AND MOISTURE DOES ENTER THE

COMPARTMENT. TURTLE TILE MATTING WILL BE INSTALLED ON EACH COMPARTMENT FLOOR.

ALL EMERGENCY WARNING LIGHTS WILL BE BY FEDERAL. A JETSTREAM HALOGEN JS94 RED 48 " ALL LIGHT / LIGHT BAR , PERIMETER EMERGENCY LITES WILL BE FEDERAL L.E.D. QUAD FLASH INCLUDING 4 REAR, 2 BODY SIDE REAR, TWO CAB FRT SIDE, 2 CAB FRONT GRILLE. ALL EMERGENCY LITES WILL BE SWITCHED FROM A CONSOLE IN THE CAB, AND CONTROLLED FROM THE MASTER BATTERY SWITCH. LEFT REAR EMERGENCY LITE TO BE BLUE. ALL WHITE LIGHTS IN THE LIGHT BAR TO COME ON IN REVERSE GEAR.

GROUND LIGHTS AND CABINET LIGHTS WILL BE HALOGEN "TRUCK LITE" BRAND MOUNTED UNDER THE CAB AND BODY ONE UNDER EACH CAB DOOR, TWO UNDER EACH BODY SIDE, TWO UNDER REAR OF BODY. COMPARTMENTS LITES WILL BE "TRUCK LITE" 2 PER COMPARTMENT. PUMP AREA WILL BE LIGHTED BY LIGHTS SWITCHED AT THE PUMP AND BY TWO LIGHTS MOUNTED AT THE FRONT OF THE TANK, ALL POWERED THROUGH THE CONSOLE BATTERY MASTER. ALL WIRING WILL BE CAPABLE OF 125% OF THE EXPECTED ELECTRICAL LOAD.

THE BIDDER WILL DELIVER A 9,000 LB RAMSEY 12VDC COMMERCIAL DIRECT LINE PULL OF 9000 LBS, QUICK MOUNT WINCH, DESIGNED FOR A CLASS 3 RECEIVER HITCH W/ MOUNTING PLATE, BOLT ON FAIRLEADS NES51C AND GRAB HANDLES. QUICK CONNECT WINCH CONTROL CONNECTIONS AT EACH REESE ATTACHMENT POINT AND WIRING AT EACH ATTACHMENT POINT. OPEN END WIRING WILL HAVE PLASTIC END CAPS FOR PROTECTION WHEN NOT IN USE, INCLUDES 1 JOHNSON 4 TON SNATCH BLOCK W/ SHACKLE AND TWO 9600 LB STD DUTY LIFTING STRAPS 6" X16' LENGTH. INCLUDES 6 BANDAG RUBBER CABLE/ STRAP PROTECTORS.

THE WINCH WILL HAVE A SEPERATE MASTER SWITCH TO POWER UP THE WINCH. THE MANUAL SWITCH WILL OPERATE POWER TO ALL RECEIVER POINTS FOR THE CONNECTION OF THE HANDHELD WINCH CONTROL. ALL PORTABLE WINCH CONTROL WIRES WILL BE CAPABLE OF 125% OF THE NORMAL ELECTRICAL LOAD EXPECTED.

BIDDER WILL CONSTRUCT 4 REAR STEPS BUILT INTO THE REAR BODY PANEL, WITH GRAB HANDLES TO EASE ACCESS TO THE REAR OF THE BODY.

THE COMPRESSED AIR FOAM SYSTEM SHALL BE A C.E.T. 35 CFM "WILD CAFS" MODEL AS PER ATTACHMENT TO THIS SPECIFICATION. **NO**

EXCEPTIONS

THE ENGINE: KOHLER 27 HP @3600 RPM AIR COOLED ENGINE, TWIN CYLINDER, 4 CYCLE, GASOLINE FUELED ELECTRIC START, WIRED FROM THE CHASSIS 12 VOLT SYSTEM. WATER TANK SHALL BE A UPF 300 U.S GALLON CAPACITY WITH A FOAM CELL OF NOT LESS THAN 10 US GALLONS.

C.E.T SINGLE STAGE HIGH PRESSURE CENTRIFICAL WATER PUMP, BRONZE IMPELLER, ALUMINUM HOUSINGS WITH MECHANICAL SHAFT SEAL, 240 GPM @ 50PSI,, 180 GPM @ 100 PSI,, 75GPM @150PSI.

THE AIR COMPRESSOR IS TO BE A PISTON TYPE COMPRESSOR IS DESIGNED AND INSTALLED TO SUPPLY A MINIMUM OF 35 CFM @ 120 PSIG.

THE FOAM SYSTEM;

FOAM PRO 1600 SERIES CLASS A FOAM SYSTEM, CAPABLE OF 500 GPM @ .2%, 200 GPM @ .5%, 100 GPM @ 1%

THE PUMP AIR INJECTION PRIMING SYSTEM MUST BE GUARANTEED TO 15' LIFT THROUGH 20 FEET OF SUCTION HOSE.

PUMP DISCHARGE AND SUCTION CONNECTIONS ARE PART OF THE ASSEMBLY;

- (2) 1 ½" DISCHARGE W/AKRON VALVES IPT
- (1) 1 ½" DISCHARGE FOR CROSSLAY'S IPT
- 1" TANK FILL LINE NPT (CONNECTED)
- 1" DISCHARGE FOR HOSE REEL NH (CONNECTED)
- 2 ½" TANK TO PUMP LINE NH (CONNECTED)
- 2 ½" PUMP DRAFT CONNECTION NH
- FOAM PRO PLUMBED TO THE C.A.F.S.

BIDDER TO INSTALL CUSTOMER'S RADIO IN THE CAB AND MOUNT SPOTLIGHT IF PROVIDED. ALL ELBOWS IN ALL CONNECTIONS TO BE LONG RADIUS.

THE BIDDER SHALL PROVIDE AND INSTALL AN AKRON BOOSTER REEL CAPABLE OF 150' x 1" REELTEX FIRE HOSE. BOOSTER REEL MUST BE PLUMBED TO THE C.A.F. SYSTEM.

PLACEMENT OF THE REEL WILL BE ON THE RIGHT REAR OF APPARATUS.

CONTROL AND OPERATION OF THE BOOSTER REEL WILL BE AT THE PUMP CONTROL STATION. THE TOP BASKET AREA WILL BE REMOVABLE AND FITTED WITH A COVER.

REAR MUD FLAPS SHALL BE FITTED AS DIRECTED. AREA FLOOD LIGHTS (2) TO BE 110V POWERED FROM GENERATOR.





C.E.T. Fire Pumps is proud
to introduce it's new **CAFS**

The "Wild CAFS"

The new way to put out fire



- Friendly user (only two buttons operation)
- High performance water pump
- Any combination from water to wet foam to dry foam
- High quality product

The **CAFS** (Compressed Air Foam System) is the new way to fight any kind of fire. It takes only seconds to knock down a fully involved fire.



PERFORMANCE (when use water only)

240 GPM (907 lpm)	@	30 PSI (3.45 bar)
220 GPM (832 lpm)	@	75 PSI (5.18 bar)
180 GPM (680 lpm)	@	100 PSI (6.90 bar)
160 GPM (605 lpm)	@	125 PSI (8.61 bar)
75 GPM (284 lpm)	@	150 PSI (10.4 bar)

• **Technical Specifications**

- Engine:**
 - Kohler 26hp at 3600 RPM, air cooled engine.
 - 2 cylinder, 4-stroke gas engine.
 - 12V electric start.
- Pump:**
 - Single stage mid pressure centrifugal pump.
 - Pump body made from aluminum alloy.
 - Bronze impeller.
 - Mechanical shaft seal.
- Drive system:**
 - The water pump works with a direct drive system and the compressor with a belt drive off the engine crankshaft.
- Air compressor:**
 - The air compressor is piston type, designed and installed to supply a minimum of 30 CFM/100 psi.
 - The unit is designed to pump water only when necessary.
- Foam proportioner:**
 - Foam Pro 1600 series
- Priming system:**
 - Air injection priming system guaranteed up to 15' suction lift.
- Connection:**
 - Two 1 1/2" delivery outlets with Akron 1/4 - turn ball valve for service line.
 - One 1 1/2" delivery outlet with Akron ball valve for pre-connect hose tray.
 - One 1" delivery outlet with 1/4 - turn ball valve for fill-in tank.
 - One 1" delivery outlet with 1/4 - turn ball valve for hose reel.
 - One 2 1/2" suction inlet tank to pump.
 - One 2 1/2" suction inlet.

Specifications may change without any notice.



US Sales:

Toll free: 1 800 567-2719 • Fax: 1 800 434-2613
E-mail: sales@fire-pump.com • www.fire-pump.com

Head Office:

75 Hector St. P.O. Box 90, Pierreville, QC CANADA J0G 1J0
Phone: 1 450 568-2719 / Toll free: 1 888 844-2285 • Fax: 1 450 568-2613
E-mail: cet@dr.cgocable.ca • www.fire-pump.com

WATER TANK

The water tank shall be constructed of 1/2" thick polypropylene sheet stock with PolymerCo-PP™ resin. Water tank shall be welded with Heavy Duty extruded joint. The material shall be of a certified, high quality, non-corrosive, stress relieved thermo plastic, black in colour with a textured finish, and UV stabilized for maximum protection. The skid type water tank shall be of a standard configuration and shall be so designed to have complete modular slide in capability. The unit shall incorporate transverse partitions manufactured for 3/8" PT2E polypropylene which shall interlock with a series of longitudinal partitions constructed of 3/8" PT2E polypropylene. All swash partitions shall be so designed to allow for maximum water and air flow between compartments and are fully welded to each other as well as to the inside of the tank. The passenger side rear wall of the tank shall have a standard built in sight gauge 3" in width, and 70% transparent.

Fill Tower & Tank Cover

The tank shall be equipped with a combination vent/overflow and manual fill tower. The fill tower shall have a 8" x 8" x 8" square hinged type cover. The tower shall be located in the right rear corner of the tank. There shall be a vent / overflow installed inside and to the extreme rear of the tower approximately 2" down from the top. This vent / overflow shall be of a standard schedule 40 polypropylene pipe with minimum ID of 3". The vent / overflow shall be piped internally toward the front and exit out the front tank wall with a 1/2" extension past the front tank wall. The tank cover shall be constructed of 1/2" thick PT2E polypropylene, black in color, UV stabilized.

Tank Capacity

The tank shall have a capacity of ³⁰⁰~~400~~ U.S. gallons of water.

ump

The floor of the tank shall be manufactured from 3/4" PT2E polypropylene. There shall be one (1) sump as standard per tank. The sump shall be integral to the tank floor and be a minimum of 3/8" deep recessed into the floor. The sump shall not be visible from or protrude through the bottom of the tank.

Tank Outlets

There shall be two standard tank outlets located in the same vertical plane on the driver side rear wall of the tank. One (1) 2-1/2" female NPT tank to pump suction fitting and one (1) 1-1/2" female NPT tank fill fitting with flow deflector

1" Tank Drain

There shall be a 1" tank drain to the rear side of the tank with a brass plug.

Tank Mounting Blocks

The cover shall incorporate two (2) booster reel mounting blocks that shall accommodate two (2) each sliding nut fasteners. These 4" large mounting blocks shall be welded to the covers running from the rear edge of the tank forward to the front edge.

id Base

There shall be a full width skid base manufactured of 3/4" PT2E polypropylene welded to the tank. This base shall be 48" wide by 96" long and shall extend 34" past the tank in the rear to allow for pump mounting. The

pump mounting area shall be supported by 1/2" PT2E polypropylene gussets approximately 15" high by 32" long. The gussets shall be equipped with 2" holes to assist in lifting the unit. The mounts shall allow for the truck to be secured directly to a truck bed without the need for any skid frame work underneath.

tank will be baffled in accordance with latest NFPA requirements.

FOAM CELL

A drop in style foam cell shall be provided in the tank. This foam cell shall be constructed using the same materials and methods as the skid tank. The foam tank shall be incorporated within the water tank and should be of a drop-in type integral to the water tank.

FOAM CELL CAPACITY

The foam cell shall have a capacity of 10 gallons.

35 CFM CAFS Gas Powered Unit Specification

The CAFS provides a self-contained, gas-powered, "slide-in" type compressed air foam system (CAFS) unit. The CAFS unit is designed to fit into the back of a standard length and width pick-up truck body.

The CAFS is designed to discharge water only, air only, foam & water mixture or compressed air foam from the same discharge outlet.

In addition, the consistency of the compressed air foam (expansion ratio), wet/dry is fully adjustable.

Engine

The power to drive the system is provided by a *Kolher*, 2-cylinder, 4-cycle, air-cooled gas engine at a rating of 27HP @ 3600 RPM. Automotive engines or ratings will not be used. The power unit has a 25-amp alternator, a dry cartridge air filter and a muffler.

Water Pump

The water pump is a Model 13-1D single-stage centrifugal pump with a vertically split aluminum case with replaceable bronze impeller and seal rings on a stainless steel shaft. It is designed to provide up to 165 GPM of plain water flow and pressured up to 145 PSI with the air compressor in the "unload" mode or load mode. The pump seal is of a mechanical design.

Air Compressor

The air compressor is of the oil injected piston type, designed and installed to supply a minimum of 35 CFM at 100 PSI of air at maximum engine RPM.

The air compressor is driven by one dry *Goodyear -V* type belts from the engine crankshaft and is mounted to the pump platform. The air compressor is capable of maintaining prolonged pressure from 100 to 125 pounds per square inch throughout the service life of the complete CAFS unit.

A pneumatic modulating inlet valve mounted on the air end inlet controls the compressor.

A balancing system is provided to automatically maintain the air pressure within plus-or-minus 5% of the water pump pressure throughout the CAFS operating range.

The compressor is cooled with air and the compressed air is cooled with a water cooler.

The system is be capable of maintaining recommended operating temperatures throughout the full operational range in ambient temperatures up to 115 F. A dry cartridge type air filter is provided on the compressor air intake.

oam Proportioner

The apparatus / skid unit shall be equipped with an electronic, fully automatic, variable speed, direct injection, discharge side foam proportioning system. The system shall be capable of handling Class A foam concentrate. The foam proportioning operation shall be based on direct measurement of water flows, and remain consistent within the specified flows and pressures. System must be capable of delivering accuracy to within 3% of calibrated settings over the advertised operation range when installed according to factory standards. The system shall be equipped with a control module suitable for installation on the pump panel. Incorporated within the motor driver shall be a microprocessor that receives input from the system flowmeter, while also monitoring foam concentrate pump output, comparing values to ensure that the operator preset proportional amount of foam concentrate is injected into the discharge side of the fire pump. A paddlewheel-type flowmeter shall be installed in the discharge system specified to be "foam capable."

The control module shall enable the pump operator to:

Activate the foam proportioning system

Select proportioning rates from 0.1% to 1.0%

See a "low concentrate" warning light flash when the foam tank runs low and in two minutes, if foam concentrate is not added to the tank, shut the foam concentrate pump down

A twelve (12) volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity shall be 1.0 gpm (3.8 L/min) at 200 psi (13.8 BAR) with a maximum operating pressure up to 400 psi (27.6 BAR). The system will draw a maximum of 30 amps @ 12 VDC.

The motor shall be controlled by the microprocessor (mounted to the base of the pump). It shall receive signals from the control module and power the 1/3 hp (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream. A full flow check valve shall be provided in the discharge piping to prevent foam contamination of fire pump and water tank. A 5 psi (.35 BAR) opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

Operator control module

Paddlewheel flowmeter

Pump and electric motor/motor driver

Wiring harnesses

Low level tank switch

Drive System

The water pump is directly driven. The compressor, which is mounted to the engine flywheel housing, is belt-driven using a one V-type belt.

Electrical System

* 1) electrical equipment installed by the manufacturer is in conformance with current automotive electrical system standards and the requirements of the applicable NFPA apparatus standards. The wiring is individually and permanently color and function coded.

All exposed wiring runs in loom with a minimum of 280F (137.8 C) rating. All wiring loom is properly supported and attached to frame members along the entire run. At any point where wire or looms must pass through metal, rubber grommets are installed to protect the wire from abrasion.

The main low voltage electrical terminal block and circuit breaker panel are provided behind the pump operators panel in a location which provides easy service access.

The electrical connections are made using heat shrink and/or waterproof connectors. All electrical circuits are protected with automatic reset circuit breakers or fuses.

Priming System

A *Ventury* type priming system is utilized. The primer is capable of priming the water pump through 20' of hard suction hose with a 15' lift. Primer controls are mounted on the operators panel.

Plumbing, Hoses and Lines

All piping is stainless steel. Use of grooved end pipe couplings are required for flexibility and movement of system components on mobile equipment. The compressor hoses are made of Teflon and braided with stainless steel. Hydraulic hoses are not used. Check valves are required throughout the system to maintain integrity and shall be placed so that the air, water foam and foam solution do not inadvertently mix. Drain valves are provided on the unit to completely drain the system to prevent freeze damage.

Tank to Pump

There is a 2.5" tank to pump suction fire grade valve fitted in the module and controlled from the operators panel.

Inlet

A 2.5" inlet is provided to draw water from the control panel with a 2.5" NH male connection and cap is provided.

It is possible to use that line for "direct tank fill" operations with a pressurized water source.

Discharge Outlet(s)

There is one (1) 1.5" discharge with stainless steel, plumbing to panel, mounted CAFS discharge outlet. Additional CAFS discharges are plumbed to the rear of the module for use with optional discharges such as a booster reel or pre-connect tray.

A Swing check valve is installed to prevent foam from back flowing into the pump.

Discharge Manifold

There shall be a discharge manifold plumbed directly to the discharge side of the pump to incorporate discharges at the rear of the unit.

This discharge manifold shall be 2" x 2" square minimum and be welded on all sides to prevent leakage. The manifold will be made from high quality stainless steel and painted red in color.

Discharge Valves

All valves larger than 1" shall be a fire service type drop out style ball valve which shall have a hard-coated anodized, high-strength, light-weight aluminum alloy body with rugged stainless steel ball and two PTFE seats.

These valves shall be capable of bi-directional flow with a minimum working pressure rating of 250 psi g.

All stainless steel parts shall be made from 300 series material. The valves shall **NOT** require lubrication of the seats or any other internal waterway component and shall be capable of swinging out of the attached waterway plumbing for easy maintenance, with the removal of six (6) to eight (8) bolts.

Any required valve 1" or smaller, unless otherwise specified, shall be a standard plumbing style industrial ball valve.

Tank Refill

A 1" tank refill line with a 1" ball valve and a flexible, reinforced hose using internally expanded fittings to allow maximum flow.

Module Frame

The frame is constructed of steel and designed for rigorous fire service. The top of the unit is hinged and allow for quick oil checks.

Control Panel

A laser-cut control panel is mounted to the electrical box, which is of a water resistant design. The following terms are marked in a logical manner on the control panel to provide for simple and easy operation.

1. L-Lamp Shielded Pump Panel Light Cluster & Switch
1. 2.5" Black Face, Master Water Pressure Gauge
1. 2.5" Black Face, Master Air Pressure Gauge
1. Primer Control
1. 2.5 suction intake pressure gage.
1. CAFS/Water Compressor Unload Valve
1. Vernier Throttle Control
1. Drain Valves
1. Auxiliary Air Outlet
1. System Operation Instruction Placard
1. Electrical Door
- a. Hour meter
- a) Panel light switch

a) Ignition switch

• *FoamPro* Concentrate Proportioner Control

Water Tank Indicator

Fire Research TankVision model WLA200-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a datalink to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

Location of water tank indicator shall be: Pump Panel Area

Labels

All controls, inlets and discharges are clearly labeled. The labels comply with applicable NFPA standards.

Testing

The completed unit shall undergo a manufacturers run-in test prior to delivery. The engine, pump and air compressor are operated for a minimum period of one day, during which time the test operator will monitor and record the functions and performance of each system component. Compressed air foam is produced during the test.

This testing will be performed to ensure proper system operation and performance prior to shipment. The manufacturer provides written certifications that the tested unit meets all performance criteria contained herein (NFPA). Water flow performance is measured using standard fire department test methods.

Manuals

One (1) copy of the *Operation and Maintenance Manual* and a CD copy are provided to the purchaser with each unit. This manual includes detailed instructions in the operation and maintenance of the overall unit, engine, water pump, air compressor and foam pump.

Dimensions

Length	34"
Width	44"
Lid Width	40"
Height	23.5"
Weight	500 lbs.

Performance

Water Pump	165GPM @ 20 PSI
Air Compressor	35 CFM @ 100 PSI
Engine Horsepower	27 HP @ 3600 RPM

Warranty

Engine	2 year
Compressor	1 year
Water Pump	2 years / 2000 hours
Chemical Injector	1 year

All fabrication and materials are warranted for a period of two (2) years barring accidents, abuse or negligence. Excluded from the warranty are all consumables and parts subject to routine replacement. We will repair or assist in the repair or replacement of the product in its entirety.

SHIPPING / DELIVERY FOB DESTINATION

The skid unit described in these specifications shall be provided with all shipping charges included in the bid package making the bid price FOB Destination.

Due to the type of shipment it shall be the end user will supply the manufacturer with a valid ship to address that is capable of handling truck freight.

L.V.F.D. F #405 CHASSIS DIMENSIONS/CAPACITIES

Ship To:

Lamoine Fire Dept

Lamoine, Maine, 04805



Dimensions & Capacities

2009 Ford F-550 Chassis

4x4 SD Regular Cab 165" WB DRW XL (F57)

Description	Value
Dimensions and Capacities	
Output	325 hp @ 3,000 rpm
Torque	600 lb.-ft. @ 2,000 rpm
1st gear ratio	3.110
2nd gear ratio	2.220
3rd gear ratio	1.550
4th gear ratio	1.000
5th gear ratio	0.710
Reverse gear ratio	2.880
Curb weight	7,630 lbs.
GVW	19,500 lbs.
Front GAWR	7,000 lbs.
Rear GAWR	14,700 lbs.
Payload	12,061 lbs.
Front curb weight	5,071 lbs.
Rear curb weight	2,559 lbs.
Front axle capacity	7,000 lbs.
Rear axle capacity	13,660 lbs.
Front spring rating	7,000 lbs.
Rear spring rating	14,700 lbs.
Front tire/wheel capacity	7,500 lbs.
Rear tire/wheel capacity	15,000 lbs.
Towing capacity	16,000 lbs.
GCWR	26,000 lbs.
5th-wheel towing capacity	16,900 lbs.
Front legroom	41.0 "
Front headroom	41.4 "
Front hiproom	67.5 "
Front shoulder room	68.0 "
Passenger area volume	66.8 cu.ft.
Length	250.0 "
Body width	93.6 "
Body height	79.5 "
Wheelbase	165.0 "
Cab to axle	84.0 "
Axle to end of frame	47.8 "

